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ABSTRACT

The purpose of this survey was to obtain from employers the requisite skills and potential employment demand for office workers on Maui. Of particular interest was: (1) the assessment of various clerical skills and computer software in its relevance to the Office Administration & Technology (OAT) curriculum at Maui Community College; and (2) the assessment of the importance of office skills for bookkeepers and accountants, which would impact the requirements for the Accounting (ACC) program. The report presents responses to 17 questions in tabular form. The researchers found that: (1) current employment is diverse; (2) employment demand crosses all sectors; (3) technology is highly integrated into most offices; (4) level of education affects hiring and salary decisions; (5) the need for specialized vocabulary is irregular; (6) basic math skills are needed; (7) required typing speed varies; (8) there is little need for shorthand in the private sectors; (9) the most popular brand of computer is IBM; (10) Microsoft Word and Excel are the most commonly used software packages; (11) desktop publishing software is not widely used; (12) alphabetic filing is still the most popular filing system in use; (13) best training times are evenings and weekends; (14) employers support employee training; and (15) the job skills rated the highest in importance are verbal and computer-related skills. Appended are survey developers, cover letter, questionnaire, and mailing list and respondents by sector. (VWC)

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ED 433 059

Community Needs Assessment
Office Administration & Technology (OAT)

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Submitted by

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Spring 1999

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Community Needs Assessment
Office Administration & Technology (OAT)

Maui Community College
Spring 1999

Purpose

The purpose of this survey was to ascertain the requisite skills and potential employment demand for office workers on Maui. Of particular interest was to assess the importance of various clerical skills and computer software, bearing relevance to the Office Administration & Technology (OAT) curriculum; and also to assess the importance of office skills for bookkeepers and accountants, which would impact requirements for the Accounting (ACC) program.

Methodology

In conjunction with the Office Administration & Technology Coordinator and Instructors, the Accounting Coordinator and Instructors, OAT Community Advisory Committee, Institutional Researcher, Assistant Dean of Instruction, and under auspices of the Dean of Instruction (Appendix A), a cover letter (Appendix B) and questionnaire (Appendix C) were developed in the Spring 1999 semester.

A mailing list of offices from private sectors was generated by consulting a variety of sources, including the OAT and ACC Coordinators and the Yellow pages of the 1998 Maui County telephone directory. The list includes all identified businesses and agencies from 10 Sectors from private industry (see Appendix D). *{Ed. Note.-- This research was not designed to assess the public sector and its large numbers of office jobs from government and judiciary positions.)*

In May 1999, the 487 questionnaires were mailed, along with the cover letter and a postage paid return envelope. The number of respondents was 96, for a return rate of 19.7 percent. One survey was returned blank, dropping the number of usable returns to 95. The resultant number of respondents per Sector are displayed below. Worthy of note is that the Hotel and Attorney Sectors contribute to about half the results (42% collectively).

TABLE A
Description of Sample

Sector	Code	No.	%
Attorneys	Attn	20	21%
Hotels, condominiums	Htl	20	21%
Investment Co., Insurance Co., Financial Advisors	Inv	15	16%
Business Service, Employment Agency, Printers, Architecture	BSv	11	12%
Non-Profit Agencies	NoP	8	8%
Banks, Credit Unions	Bnk	6	6%
Mortgage Co., Title Co., Securities	Mort	5	5%
Advertising, Marketing, Communications	Adv	4	4%
Medical Centers	Med	3	3%
Graphics, Networks, Computer I.T.	Net	3	3%
Totals		**95**	**100%**

Results

A. *Current Employment is Diverse.*

Responses to Question #1 are displayed below in Table Q-1.

TABLE Q-1
Current Employment by Sector

Employment	Htl	Med	Attn	BSv	NoP	Bnk	Inv	Mort	Adv	Net	Totl	%
Other	5	47	10	9	--	7	6	2	3	1	90	**18%**
Bookkeeper	45	4	10	6	11	2	1	1	2	1	83	**16%**
AdmAssistant	41	--	6	5	9	2	5	2	1	--	71	**14%**
Scty to Mgr	39	3	3	4	5	2	1	--	1	1	59	**12%**
Receptionist	22	5	10	2	3	--	4	4	2	1	53	**10%**
Office Mgr	10	--	9	5	6	2	3	3	1	--	39	**8%**
General Clerk	4	10	4	3	3	7	5	2	--	--	38	**7%**
Computer Opr	4	3	1	11	1	5	2	1	4	--	32	**6%**
Leg/Med Scty	--	6	25	2	--	--	--	--	--	--	33	**6%**
Steno	--	3	--	2	--	--	--	--	--	--	5	**1%**
WordProcessr	--	--	1	2	--	--	--	1	--	--	4	**1%**
Info System	1	--	--	--	--	--	--	4	--	--	5	**1%**
Total	**171**	**81**	**79**	**51**	**38**	**27**	**27**	**20**	**14**	**4**	**512**	
Percent	**33%**	**16%**	**15%**	**10%**	**7%**	**5%**	**5%**	**4%**	**3%**	**1%**	**100%**	

- The 95 respondents report employing a total of 512 office workers.
- Job titles of the 512 office workers are varied. The most common response is Other (18%), followed by Bookkeeper (16%), Administrative Assistant (14%), and Secretary to Manager (12%).
- The list of Other titles is quite varied, as seen from Section II -- Responder Comments.
- Sectors reporting the largest employment of office workers are Hotels (171, 33%), Medical Centers (81, 16%), and Attorneys (79, 15%). *{Ed. Note.-- Hotel and Attorney Sectors have large numbers responding.}*

B. *Employment Demand Crosses all Sectors.*

TABLE Q-2
Employment Demand

Hiring	Htl	Med	NoP	BSv	Inv	Attn	Mort	Bnk	Net	Adv	Totl	%
Replacement	43	17	7	5	3	7	4	1	--	--	87	53%
Expansion	11	5	10	12	12	7	6	7	5	1	76	47%
Total	**54**	**22**	**17**	**17**	**15**	**14**	**10**	**8**	**5**	**1**	**163**	**100%**
Percent	**33%**	**13%**	**10%**	**10%**	**9%**	**9%**	**6%**	**5%**	**3%**	**1%**		

- Respondents anticipate hiring 163 office workers in the next three years.
- The demand for 163 workers in three years from these respondents averages 54.3 per year, which would absorb many of the 124 OAT majors and 100 ACC majors currently enrolled. *{Ed. Note.-- Assuming the 224 OAT and ACC majors take two years to graduate, then statistically half of them (112) would be available each year to take the 54.3 office positions. In fact, many majors are in-service students who already hold jobs. Furthermore, additional jobs are available from the many employees not surveyed, including the public sector and Doctor's Offices that were surveyed last year under the Needs Assessment for Health Unit Coordinator.}*
- Most Sectors expect to hire office workers, implying generalized hiring activity.
- Expansion accounts for 47 percent of the anticipated hires, despite the economy.

C. *Technology Enters Offices.*

TABLE Q-3
Equipment Used in Offices

Equipment	Usage	Equipment	Usage
Personal Computer	99%	10-Key Adder	78%
Fax Machine	99%	Etron Scanner	36%
Photo-copier	95%	Etron Mem'y Type	32%
Laser Printer	86%	Transcriber	21%
Electric Typewriter	79%	Other	13%

- Almost every respondent reports using the personal computer (99%) and the fax (99%). "New" technology has become commonplace in offices.
- Most respondents employ a photo-copier (95%) and laser printer (86%).
- Electric typewriters and 10-key adders are still around, as they are used in (respectively) 79 percent and 78 percent of respondent offices.
- Electronic Scanners are gaining momentum, with 36 percent of those responding reporting having one in their office.
- Vestiges of electronic memory typewriters (32%) and transcribers (21%) are still apparent.
- The Other equipment mentioned include Digital camera (2), postage meter (2), and sundry others. Section II furnishes the full listing.

D. *Consideration for Education is Given.*

TABLE Q-4
Higher Starting Salary with Education

Higher Salary	No.	%
Yes	10	10%
No	18	19%
Maybe	56	59%
I don't know	10	10%
Blank	1	1%
Overall	**95**	**100%**

- New hires with a 1-year or 2-year degree from MCC are paid a higher starting salary by very few respondents (10, 10%).
- About a fifth of the respondents say flatly they would not pay a higher entering wage to applicants with an MCC credential (18, 19%).
- Yet the most frequent response is Maybe (56, 59%), suggesting an MCC degree indeed may be a pathway to a higher salary. Section II reflects how some (4) respondents claim it depends on work experience.
- Analysis of Sector data indicates that respondents asserting to paying the higher beginning wage are from various Sectors: Investment (3), Attorney (3), Mortgage (1), Non-Profit (1), Advertising (1), Business Services (1).

E. Specialized Vocabulary Need is Irregular.

TABLE Q-5
Specialized Vocabulary Need is Irregular

Specialized Vocab	No.	%
Legal	22	23%
Medical	7	7%
None	43	45%
Other	27	28%
Blank	2	2%
Overall	*101	106%

*Note.— More than one response accepted.

- No specialized vocabulary is reported by 45 percent of respondents.
- The specialized vocabulary usage is diverse: Legal (23%), Medical (7%), and Other (27%).
- The Other vocabularies include: Financial (9), Business (5), Hospitality/Travel (5), and several more (see Section II).
- It is interesting to note how a good number of respondents (9) declared that the specialized vocabulary needed is Proper English or Good Attitude.
- Sector analysis shows much -- but not all -- of the Legal Vocabulary usage comes from the Attorney Sector, where 16 of the 20 returns selected that option. *(Ed. Note.-- Not included in this sample are public sector Judiciary workers who might add to the need for Legal terms.)*

F. Business Math Problems.

An open-ended question asked what specific types of business math problems employees need.

- Many (34) respondents mentioned Basic Math -- addition, subtraction, multiplication, division, percentages.
- Others mentioned are: Interest calculations (5), Tax calculations (4), Amortization (3), and sporadic others -- especially in relation to the comparatively overwhelming call for Basic Math. (Verbatim comments are presented in Section II.)

G. Required Typing Speed Varies.

TABLE Q-7
Required Typing Speed

Job Titles	None	25-40	40-50	50-60	60+	Blank	Total
Clerk-Typist	10	20	20	8	9	28	95
Secretary	6	11	16	14	13	35	95
AdmAssistant	8	12	17	16	8	34	95
Overall	**24**	**43**	**53**	**38**	**30**	**97**	**285**
Percent	**8%**	**15%**	**19%**	**13%**	**11%**	**34%**	**100%**

- Required typing speeds are dispersed across the range, from none (8%) to 60+ wpm (11%): the highest concentration is 19 percent selecting 40-50 wpm.
- The three job titles do not evoke substantial differences in needed wpm: just a few more respondents believe the lower typing speeds (at 25 to 50 wpm) are adequate for Clerk-Typists (20 + 20 = 40) compared to Secretaries (11 + 16 = 27) and Administrative Assistants (12 + 17 = 29); and, just slightly more believe the higher typing speeds (at 50 to 60+ wpm) are requisite for

Secretaries (14 + 13 = 27) and Administrative Assistants (16 = 8 = 24) than for Clerk-Typists (8 + 9 = 17). *{Ed. Note.-- The differences, albeit slight, confirm some of our biases.}*

- The top speed of 60+ was chosen by just 11 percent of the respondents. Consideration should be given to just how much weight to place in the OAT curriculum on speedy typing vis-à-vis other requirements.
- Further analysis by Sector indicates the requirement for top typing speed comes mostly from the Attorney Sector, where 9 of 20 respondents used the top rank. None of the other Sectors saw the need for 60+ wpm except one each from Hotel, Medical Center, Business Services, and Investment.

H. Little Need for Shorthand (from Private Sectors).

TABLE Q-8
Required Shorthand Speed for Secretaries

Proficiency	No.	%
100+ wpm	--	--
80-100 wpm	2	2%
60-80 wpm	1	1%
Not required	80	84%
Blanks	12	13%
Total	**95**	**100%**

- Shorthand need from these respondents is practically non-existent: most responders either said shorthand is not required (84%) or left the item blank (13%). This result supports the perception that much of the call for shorthand comes from the public sector, where the Civil Service exam requires shorthand proficiency for employment in the higher paying Secretary and Clerk-Steno positions.
- Just three (3) offices report using shorthand, with the required level reported at 60-100 wpm. The Sectors of these affirmative repliers are: two (2) from Medical Centers; the other from a Hotel.

I. Most Popular Brand of Computer is IBM.

TABLE Q-9
Brand of Computer Usage

Computer Brand	No.	%
None	1	1%
IBM or compatible	79	83%
Macintosh	11	12%
Other	9	9%
Blank	1	1%
Overall	***101**	**106%**

*Note.— More than one response accepted.

- IBM is used regularly in the offices reporting (83%).
- Macintosh is used rarely, in only 11 offices responding (12%) -- half (6) of these also checked IBM.
- Several offices are using other equipment: Dell (3), HP (2), Wang (2). See Section II for full listing.

J. ***Word Processing Software is usually Microsoft Word.***

TABLE Q-10
Word Processing Software Usage

WPRO Software	No.	%
Microsoft Word	76	80%
Word Perfect	39	41%
Other	11	12%
None	3	3%
Blank	1	1%
Overall	***130**	**137%**

*Note.— More than one response accepted.

- Microsoft Word is used by most respondents (80%).
- Word Perfect is used by under half (41%).
- Others mentioned include Microsoft Works (4) and Coats (2). See Section II for full listing.

K. ***Most Popular Spreadsheet Software is Excel.***

TABLE Q-11
Spreadsheet Software Usage

Acct'g Software	No.	%
Excel	66	69%
Database	25	26%
Other	27	28%
Blank	8	8%
Overall	***126**	**133%**

*Note.— More than one response accepted.

- Excel is used by about two-thirds (69%).
- Database is used by only a fourth (26%).
- A common response to this item is Other (28%), including a long list of diverse others: Lotus (12), Quickbooks/Pro (6), Quicken (3), MS Works (3), Access (1), Paradox (1), Peach Tree (1), Omega (1), EBT/IBM (1), Timeslips (1). See Section II.

L. ***Specialized Desktop Publishing Software is Not a Priority.***

TABLE Q-12
Desktop Publishing Software Used

Publishing Software	No.	%
None	48	50%
Pagemaker	11	12%
Other	23	24%
Blank	18	19%
Overall	***100**	**105%**

*Note.— More than one response accepted.

- The most frequent response to this item is None (50%) -- suggesting low current usage of specialized desktop software by offices. Evidently offices are currently handling much of their

needs for graphics by the less sophisticated Microsoft Word and Power Point software; or else farm out the job.

- Only 12 percent use Pagemaker, suggesting study in Pagemaker may be elective to the OAT curriculum at this time.
- About a quarter (24%) of the offices checked Other, listing: Microsoft Publisher (10), Printshop (5), Quark Express (4), Desk Jet (1), Photoshop (1), Adobe (1).

M. Alphabetic Filing is still the Most Popular.

TABLE Q-13
Filing Systems Used

Filing System	No.	%
Alphabetic	85	89%
Numeric	39	41%
Computerized	31	33%
Subject	22	23%
Microfilm/fiche	6	6%
Other	5	5%
Geographic	3	3%
Blank	1	1%
Overall	***192**	**201%**

*Note.— More than one response accepted.

- Most agencies (89%) use the Alphabetic system of filing.
- Also popular are Numeric (41%), Computerized (33%), and Subject (23%).
- A small number of agencies report doing Microfilm/fiche (6%) or Geographic (3%) filing.
- Others mentioned are Chronological (2), Alpha Numeric (1), Tax Map Key (1). See Section II.

N. Best Training Times are Evenings and Weekends.

TABLE Q-14
Best Times for Training Classes

Time for Classes	No.	%
Before Work (early a.m.)	6	6%
Morning (8 a.m.-noon)	19	20%
Lunch Hour	7	7%
Afternoon (noon - 4 p.m.)	14	15%
Late Afternoon (4-6 p.m.)	33	35%
Evenings	53	56%
Weekends	26	27%
Blanks	12	13%
Overall	***170**	**179%**

*Note.— More than one response accepted.

- No training time is best for everyone, when 75%+ could attend.
- About half express interest in Evenings (56%). Less interest is expressed for Late Afternoons (35%) and Weekends (27%).
- The traditional Morning and Afternoon slots are less popular (20% and 15%, respectively).
- Very few express ability to come to campus over the lunch hour (7%) or before work (6%) -- occluding support for the College's Breakfast and Brown Bag series.

O. ***Employers Support Employee Training.***

TABLE Q-15
Reimbursement for Education

Reimbursement	No.	%
Yes	54	57%
No	38	40%
Blank	3	3%
Overall	**95**	**100%**

- A very pleasant 57 percent of the respondents report having a current policy of reimbursing employees for the cost of job-related education.
- Section II illustrates variations in policies of reimbursement.

P. ***Employees Need In-Service Training.***

When given an open-ended question about what training their office employees need, respondents replied overwhelmingly with requests for various computer training, and for several other areas as well (see verbatim comments in Section II):

- Computer Training (24)
- Writing skills/English usage (5)
- Customer service (4)
- Telephone etiquette (4)
- Time management (4)
- Legal Aspects (4)

Q. ***Specific Job Skills Needed.***

Respondents were asked to rate a variety of skills as Low, Medium, or High in importance (with High = "3") for successful performance on the job. Table Q-17a displays the average ratings for each of four office positions (Clerk Typist, Secretary, Administrative Assistant, Bookkeeper/Account Clerk), so that comparisons between the OAT and ACC office workers may be made. The last column of the Table reports the sum of the four averages, in order to evaluate which skills are weighted the most important overall.

Top 10 Requirements Overall. Ten (10) skills are rated very high, with sums at 11.0 or higher (out of a possible score of 12). Four of these are Verbal skills, four are from the Computer field, and one from Clerical:

Verbal: Verbal (11.6), Telephone Etiquette (11.6), Grammar (11.2), Human Relations (11.2)
Computer: Computer Literacy (11.2), Computer Operations (11.2), Work Processing Software (11.1), Windows 95 (11.0)
Clerical: Accurate Typing (11.2)

It is interesting to note how just one of these highly regarded skills is from the Clerical field. This result alone gives evidence to the transformation of office positions into the professional and technical arenas.

TABLE Q-17a
Importance of Specific Skills

Office Skill	Clk-Typ	Secty	AdmAst	Bkpr	*Sum
Verbal Skills					
Verbal Communication	2.8	3.0	3.0	2.8	11.6
Gramr, Spellg, Punctn	2.8	2.9	2.9	2.6	11.2
Specialized Vocabulary	2.2	2.4	2.5	2.3	9.4
Telephone Etiquette	2.9	3.0	3.0	2.7	11.6
Composing Ltrs/Rprts	2.4	2.9	2.9	2.5	10.7
Clerical Skills					
Fast Typing	2.3	2.6	2.5	2.1	9.5
Accurate Typing	2.8	2.9	2.8	2.7	11.2
Shorthand	1.3	1.6	1.5	1.3	5.7
Filing System	2.7	2.9	2.8	2.5	10.9
Math Skills					
Basic Business Math	2.3	2.4	2.5	2.9	10.1
Accounting Principles	1.7	1.9	2.2	2.9	8.7
Machine Skills					
Electronic Calculator	2.2	2.4	2.4	2.9	9.9
10-key by Touch	2.0	2.2	2.1	2.9	9.2
Machine Transcription	1.8	2.0	1.9	1.7	7.4
Ofc Equip Troubleshoot	2.0	2.1	2.2	2.1	8.4
Interpersonal Skills					
Human Relations	2.7	2.9	2.9	2.7	11.2
Legal Aspects	1.9	2.2	2.4	2.2	8.7
Supervision Principles	1.9	2.0	2.3	2.1	8.3
Management Principles	1.7	2.0	2.3	2.1	8.1
Economic Principles	1.6	1.8	2.2	2.2	7.8
Computer Skills					
Computer Literacy	2.6	2.8	2.9	2.9	11.2
Computer Operation	2.7	2.8	2.8	2.9	11.2
PCC DiscOperatgSyst	2.1	2.0	2.0	2.2	8.3
Windows 3.11	2.1	2.0	2.0	2.1	8.2
Windows 95	2.6	2.8	2.8	2.8	11.0
WordProcessing Softw	2.7	2.9	2.9	2.6	11.1
VoiceRecogntion Softw	1.4	1.4	1.6	1.5	5.9
Database Software	2.0	2.0	2.4	2.4	8.8
DesktopPubg Software	1.7	1.9	2.1	1.7	7.4
Power Point Software	1.7	1.8	2.1	1.7	7.3
Internet WebSrch/Dsgn	1.7	1.8	2.0	1.9	7.4
Electronic Mail	2.3	2.4	2.6	2.5	9.8

*Note.– Computed by pooling (adding) scores for the preceding four positions.

The next three analyses were undertaken to evaluate the importance of the various skills relative to the four office positions (unlike the preceding analysis which summated over the four office positions).

Pattern of Skills for Various Office Positions. To assess whether some job titles place a heavier reliance on certain skills, a comparative review was made of the four averages on each skill as reported in Table 17a. A few contrasts are summarized in Table Q-17b.

The contrasts support our perceptions: OAT majors who aspire to the higher-paying Secretary and Administrative Assistant positions need higher skills generally. And, ACC majors planning for careers as a Bookkeeper or Account Clerk need solid skills in Accounting, Business Machines, and Business Math.

TABLE Q-17b
Skill Differences among Job Types

Secretary & Administrative Assistant: Generally higher ratings on many skills compared to Clerk Typist
Bookkeeper/Account Clerk: Higher ratings on Accounting, 10-key, Electronic calculator, Basic math

Skills Judged Less Important for Various Positions. The 95 respondents gave the lowest ranks to the set of skills reported in Table Q-17c, which lists only those skills with an average less than 2.0 for one/more job title.

TABLE Q-17c
Relatively Less Important Skills for Various Office Positions

Skills	Clerk	Secty	AdmAst	Bkpr
Short hand	1.3	1.2	1.5	1.3
VoiceRecognition Softw	1.4	1.4	1.6	1.5
Internet WebSrch/Dsgn	1.7	1.8		1.9
PowerPoint Software	1.7	1.8		1.7
DesktopPublishg Softw	1.7	1.9		1.7
Machine Transcription	1.8		1.9	1.7
Economic Principles	1.6	1.8		
Accounting Principles	1.7	1.9		
Management Principles	1.7			
Legal Aspects	1.9			
Supervision Principles	1.9			

These characteristics have implications for the curriculum. Several curriculum "standbys" are fading in importance: Shorthand and Machine Transcription. And, several emerging new technologies have not yet grasp hold in community offices: Voice recognition software, Internet web search and design, Power Point software, and Desktop publishing. The curriculum might offer these as elective components rather than requirements.

Skills Judged Highly Important for Various Positions. The 95 respondents saved the highest ranks for the set of skills reported in Table Q-17d, which lists only those skills with an average score of 2.7+ on one/more of the job titles.

TABLE Q-17d
Most Important Skills for Various Job Titles

Skill	Clerk	Secty	AdmAst	Bkpr
Telephone Etiquette	2.9	3.0	3.0	2.7
Verbal Communication	2.8	3.0	3.0	2.8
Accurate Typing	2.8	2.9	2.8	2.7
Computer Operations	2.7	2.8	2.8	2.9
Human Relations	2.7	2.9	2.9	2.7
Gramr, Spellg, Punctn	2.8	2.9	2.9	
WordProcessing Softw	2.7	2.9	2.9	
Filing System	2.7	2.9	2.8	
Windows 95		2.8	2.8	2.8
Computer Literacy		2.8	2.9	2.9
Composing Ltrs/Rprts		2.9	2.9	
Basic Business Math				2.9
Accounting Principles				2.9
Electronic Calculator				2.9
10-key by Touch				2.9

Clearly, all four job positions place heavy reliance on Verbal skills, especially Telephone Etiquette, Verbal Communication, and Human Relations. All four jobs require as well proficiency in Accurate Typing and Computer Operations.

It is interesting to note how excellent verbal and interpersonal skills are needed by the OAT majors along with clerical skills, and are also needed by the ACC majors along with essential bookkeeping skills. These results suggest emphases for the OAT and ACC curricula.

Section II

Synopsis

- These results are based on 95 respondents to a survey mailed to 487 office employers from the private sector in Spring 1999.
- The job titles of office workers are diverse, with the most common response being Other (18%).
- Hiring is anticipated across all sectors surveyed, with Expansion (47%) matching Replacement (53%).
- "New" technology is commonplace in offices, with most respondents using the personal computer, fax, and laser printer, along side the photo-copier, electric typewriter, and 10-key adder. Scanners are gaining momentum (32%).
- When employers were asked if they were willing to pay a higher wage to new office hires with an MCC certificate or degree, only 10 percent said they would, yet more than half (59%) reported they might.
- Specialized vocabulary is not required by most respondents (45%).
- The business math most often needed is Basic Math.
- Required typing speeds are dispersed across the complete range. The highest concentration was for 40-50 wpm (19%).
- Shorthand has little expressed need from the private sector responding to this survey.
- Most popular brand of computer is IBM (83% use).
- Work processing software is usually Microsoft Word (80%).
- Most popular spreadsheet software is Excel (69%), along with a wide variety of Others (28%).
- Specialized desktop publishing software (e.g., Pagemaker) is not a priority at this time.
- Alphabetic filing is still the most popular (89%).
- Best times for training are evenings and weekends.
- Many employers support employee training, with 57 percent having a current policy of reimbursing for the cost of job-related education.
- The job skills rated the highest in importance are Verbal and Computer-related.

Section II

Responder Comments

Ed. Note.-- Each verbatim comment is identified in parenthesis by the responder's Sector and Subject number, where:
Ad = Advertising *At = Attorney* *Bn = Bank/CreditU* *In = Investment* *Bu = Business Services*
Nt = Networks *Ho = Hotel/Condo* *Mt - Mortgage, Title* *NP = NonProfit* *Md = Medical Cntr..*

1. Number office workers: other_____.

Customer Service (At-1)
Customer Service Assistant (Bn-1)
Customer Service representative and loan officer (In-6)
Client Service Rep (In-7)

Legal Assistant (At-9)
Legal secretary-1 does most of these things (At-18)
Paralegal (At-7)
Paralegal (At-17)
Court-trained xx (At-12)

Clerks: Health Unit Clerks, Personnel Clerks, Hospital Building Clerks, and Credit & Collection Clerks (Md-2)
Front Desk Clerks (Ho-17)

Claims Adjuster (In-8)
Computer programmer (NPk-3)
Program managers-2, outreach worker-1, employment specialist-2, van driver-1 (Bu-6)
Money manager (In-10)
Reservations (Ho-15)
Reservationist (Ho-7)
Sales Assistant (At-6)
Tellers and Loan Processors (Bn-2)
Transcriptionist (Bu-5)

All the same person (At-14)
All done by one employee (Mt-2)

Numbers Vary (Bu-1)
Numbers Vary (Bu-2)

3. Equipment currently used: other_____.

18-line telephone/voice mail system (Mt-4)
Credit card machines (Ho-2)
Digital camera (Bu-10)
Digital camera, laptop, cellular phone (In-8)
EDS Computer System (Bn-4)
Email station (server) (Bu-4)
External hard drive (At-17)
Folder/paper cutter (Bu-11)
Ink Jet professional printer (Bu-3)
Postage meter, answering machine (At-16)
Postage meter (Bu-6)
Xerox (Ho-16)

4. MCC degree justifies higher starting salary.

Depends on experience and/or knowledge/skill (At-14)
Depends on experience and what type of degrees. (At-16)
Depending on work experience. (Ho-9)
Unless they were experienced. (At-1)

5. Specialized vocabulary required: other_____

Proper English (Ad-3)
Speak, read, write English (Ho-6)
Standard English -- very important! (Ho-11)
Good English (Mt-5)
...good verbal & written (Ho-2)
Emphasize the importance of being able to write, and the development of writing and speaking skills in course work. (At-9)
Please "produce" a student that can speak English, dress well, has positive attitude and can compose sentences with correct spelling, grammar etc. -- otherwise I'd not even let them in the door! (In-14)

Most important of all is that employees have a positive attitude, good work ethics, and teamwork philosophies!! (Mt-5)
Pleasant personality most important, don't want a complainer or gossiper (At-14)

Financial (In-15)
Financial (In-11)
Financial (In-11)
Finance (In-10)
Real estate (In-13)
Real estate (Bu-10)
Mortgage, banking, real estate, escrow, title (Mt-4)
Insurance (In-9)
Insurance and investment (In-3)

Business (Mt-1)
Business (Ad-1)
Business (Ho-16)

Business (In-4)
Business vocabulary (Bu-3)

Hospitality (Ho-15)
Hospitality industry (Ho-10)
Hospitality... (Ho-2)
Travel industry terms (Bu-4)
Travel (Ho-7)

Computer language (NPk-3)
Technical (NPk-2)
CAD/engineering (NPK-1)
Printing graphics (Bu-11)

Also skills and competence in Ilocano and Tagalog (Bn-4)

Medical sales insurance info (At-14)

6. *Specific types of math employees need.*

Basics (At-5)
Basic (Ho-16)
Basic Math (Ho-4)
Basic Math (Ho-12)
Basic math (Bu-11)
Basic math (In-4)
Basic math (Ho-20)
Basic Math (Ad-4)
Basic Math (At-15)
Basic Math;... (Bn-2
Basic math skills,... (Ho-10)
Basic Math (multiplication, division, add, subtract, percent) (Ho-1)
Basic Math, addition, subtraction, division, percents (Bn-4)
All basic math is required (Ad-1)
Elementary Math (At-12)
High school math adequate (Bu-3)
Simple math requirements -- very basic (Bu-10)
Calculations (Mt-1)
Addition, subtraction, multiplication (Mt-2)
Add, subtract, multiply, divide (Ho-11)
Add, subtract, multiply, divide (Ho-7)
Add, subtract, multiply, percentage (Ho-2)
Add, subtract, divide, multiply, percent (Ho-6)
Adding, subtracting, division, multiplication, and percent
Add, subtract, multiply, divide, percent, ratios, etc. (In-14)
Adding, multiplying,... (At-16)
...add, subtract, etc., fractions, percentages (Mt-5)
Addition, percentages, budgets, subtraction, forecasting. (NP-6)
Accurate adding, subtracting, multiplication, and division. Ratio and proportion, problem solving (Md-1)
Multiplication, division, simple algebra (At-10)

Percentage (NP-1)
Percentages (Bu-4)
Percentages (Bn-6)
...percentage calculations (At-11)

Ratios (At-1)
Ratio's for allocations,... (NP-4)

Interest calculations (At-4)
Interest calculation on loans, annual percentage yields, accruals (Bn-1)
Computer interest due; i.e., principal, interest rate, number of days. (At-18)
Calculating interest payments, loan payments, apr, etc. (At-11)
...loan interest calculations, dividend calculations (Bn-2)
Percentile problems to compute discounts, general excise tax and transient tax, etc. (Ho-5)

Tax calculation (At19)
Transfer (gift and estate) tax calculations; calculation allocated with real property sale transactions; calculation associated with trust and probate estate administration and distributions (At-9)
Rates and discounts, tax applications, inventory counts (Ho-18))
Do legal billing, percentages, taxes, etc. (At-14)

Amortization (Mt-4)
Amortization,... (Mt-5)
Preparation of amortization tables,... (At-11)

Contracts, pricing, etc. (Ad-3)
...mortgage, billing, Internet, judgments, foreclosures (At-20

Accounting terms: debit, credit; balancing register; counting cash; foreign currency exchange. (Ho-9)
Basic accounting -- debit and credit (Ho-17)
...accounting cashier (Ho-10)

Program managers need fiscal/budget background to manage program budgets of $500,000 + (Bu-6)
Limited policy rating (In-7)
Depreciation, appreciation, betterment, discounts, subrogation (e.g., at what

amount would we as an Insurance company total out a vehicle? How is that determined?) (In-8)
Finance (In-13)

It would be great if even secretaries had some spreadsheet experience (Ho-4)
The basics found in MS Excel (NPk-2)
Spreadsheets,... (At-20)
Some statistics (NPk-3)
...statistics. (NP-4)
...balancing a check book. (At-16)

Typing and basic computer skills can be easily taught. Professional business demeanor, writing skills, interpersonal relationships, professionalism, poise are the more difficult traits to teach and master, yet they are more important than most clerical skills. (Ho-14)

No specific math required (In-10)

7. *Typing speed required of secretaries?*
Not required (At-5)
Not usually an issue (NPk-2)

9. *Computer brand used: other* _____.
Compaq (Ho-20)
Dell desktop and laptop computers (In-8)
Dell (In-9)
Dell (At-20)
EDS System (Bn-4)
Fujitsu (In-3)
HP (Bu-1)
HP (Bu-2)
Gateway (Ho-4)
NCR (Bn-3)
Toshiba, Dell (In-6)
Wang (At-5)
Wang (At-15)

10. *Word processing software used: other*_____.
Coats (Bu-1)
Coats, MS Office, Excel
Corel (In-3)
Lotus Ami Pro (In-8)
Microsoft works (Mt-2)
Microsoft Works (At-11)
Works (At-15)
Works (Bu-4)
Word Perfect 5.2, Microsoft Word 7.0 (At-19)
Office 97 (At-10)
Office 97 (NP-6)
PC Law Jr. (At-20)
Publisher (Ho-18)
Quark (Ad-2)
Smart (Bu-3)
Wang (At-5)

11. *Acc'g/spreadsheet software used: other*_____.
Access (NP-2)
EBT, IPM (In-13)
Lotus (At-3)
Lotus (At-5)
Lotus (NP-4)
Lotus (Ad-1)
Lotus (At-15)
Lotus (Bu-6)
Lotus (Bu-7)
Lotus (Bu-9)
Lotus 123 (In-8)
Lotus 123 (Ho-11)
Lotus 123 (Ho-14)
Lotus 1-2-3 and Quickbooks (Ho-5)
MS Works (At-2)
MS Works (At-11)
Microsoft works (Mt-2)
Omega (At-16)
Paradox 7.0 (Bu-4)
Quickbooks Pro, Quicken, Peach Tree (Bu-3)
Quickbooks Pro (Bu-5)
Quickbooks (Ad-2)
Quickbooks (NPk-3)
Quickbooks Pro, Timeslips (At-17)
Quicken (At-4)
Quicken (At-13)
Quatro Pro (Ho-18)
Not necessary (In-4)

12. *Desktop publishing software used: other* ___.
Adobe (Mt-4)
DeskJet (Ho-4)
Microsoft (In-9)
Microsoft Publisher (Bn-2)
Microsoft Publisher (At-21)
MS Publisher (NP-7)
MS Publisher (In-10)
MS Publisher (NPk-3)
Publisher 98 (Ho-18)
Publisher (Ho-7)
Publisher (Bn-6)
Printshop (Bu-1)
Printshop (Bu-2)
Printshop (Md-2)
Printshop (Ho-10)
Printshop (Ho-15)
Quark Express, Photoshop(Bu-3)
Quark (Ad-2)
Quark (NPk-2)
Quarkxpress, Publisher (Bu-11)

13. *Filing system used: other* _____.
Alpha Numeric (Ho-7)
Chronological (At-17)

Chronological (In-6)
Computer filing (In-8)
Tax map key (Bu-10)

15. *Reimbursement for job-related education.*
Maybe (At-1)
Yes, only if pre-approved (Bn-4)
Yes, pay for tuition and books (At-14)
Yes, 100% materials/tuition only for B+ or above; 70% materials/tuition only for C or below; 0% for failing (In-10)

No, but this is possible (At-18)
No, however, company does give an educational benefit of allowing staff to use company time to attend college. Up to four hours per week of paid time. (Bu-6)

16. *Areas current employees need training?*
Computer (In-7)
Computer (NP-7)
Computers (Mt-4)
Computers (Ho-16)
Computer programs, ... (NP-4)
Computer training (NP-6)
Computer training (Ho-19)
Computer skills, ... (Ho-2)
...Computer skills (Ho-1)
Computer programs (NP-1)
Computer operation/literacy,... (Bu-9)
Computer usage,... (In-4)
Computer S/W,... (NPk-2)
Personal computers/Microsoft 95 or 98 (Bn-2)
Microsoft word (At-16)
Word Processing (At-11)
Windows 98, Word, Excel (Ho-15)
Word, excel, power/point, e-mail (Ho-9)
Word processing, spreadsheet, Basic PC use in Windows (Ho-18)
Microsoft word/excel,... (In-11)
Microsoft office programs other than word (Ho-11)
Advanced computer skills (NPk-3)
Complex WordPerfect Computer Skills (At-13)
...Intermediate to Advance skills using WordPerfect and Microsoft Word (At-9)

Math and Writing (Mt-1)
Writing Business Letters (NP-3)
Writing Skills/Grammar and composition skills (Ho-3)
...Better use of English (Ho-7)
...Written (Ho-2)

Customer Service and Reservations (Ho-5)
Customer Service, How to work efficiently /manage bosses (Md-1)
Customer relations, accounting basic (Ho-17)
...customer service, handling customers, etc. (In-4)

Telephone and sales skills - get with experience. (In-14)
Telephone skills (including sales) (Ho-13)
Telephone etiquette (Bn-6)
...Telephone etiquette (NP-4)

Time management ... (Ho-1)
...time management (Bu-9)
...time management,... (In-11)
...time management, Organizational skills, Professionalism (Ho-14)

Property damage assessment, medical terms/treatment skills, negotiation skills, legal skills. (In-8)
Legal secretarial training. (At-14)
Legal system (At-17)
Legal and tax research via Internet,... (At-9)

...Project fiscal management (NPk-2)
...project management (In-11)

Financial planning (In-10)
Loan programs (Mt-5)
Sales, Marketing,... (Ho-7)
Memory and follow-up (In-13)
Typing Speed (At-3)
Filing,... (Ho-14)

Two staff members currently take classes at MCC. (Bu-6)
We do most of our own training. (Bn-3)
None, she has worked for me on and off for 28 years! (At-18)

Appendix A

Developers of the OAT Needs Assessment

OAT Coordinator	Ku'uipo Lum
Institutional Researcher	Shirley Callard
Assistant Dean of Instruction	Jean A. Pezzoli
Dean of Instruction	flo wiger

APPENDIX B

UNIVERSITY OF HAWAI'I

UNIVERSITY OF HAWAI'I CENTER ON MAUI

Maui Community College
Office of the Provost

April 23, 1999

MEMORANDUM

TO: Survey Recipients

SUBJECT: Questionnaire

Maui Community College's Office Administration and Technology Program (OAT) currently has over 120 students enrolled and is continuing to grow. To assist us with our planning process and to ensure that MCC is providing instruction in the skill areas needed by our students to become employable for tomorrow's workforce, we are requesting your assistance in filling out the attached survey.

Our OAT program will prepare and graduate students for employment by the many Maui County businesses who's needs are changing due to shifts in technology. We also expect some of the graduates will take advantage of opportunities of transferring to four-year degree programs.

Your input is of great importance in determining the change in our current program.

At present MCC offers basic courses in English, Math, Interpersonal Skills, Clerical, and Computer Technology. Maui's business community looks to MCC to constantly update and revise our program curriculum to better prepare their current and future employees. Therefore please assist us in completing the attached survey with any comments, and use the enclosed envelope to return it by May 31st.
Thank you for your assistance.

Clyde M. Sakamoto

Thank you for your input!

Clyde

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310 Kaahumanu Avenue Kahului, Hawai'i 96732
E-mail: clyde.sakamoto@mauicc.hawaii.edu • Tel 808 984-3213 • Fax 808 244-0862
An Equal Opportunity Employer

APPENDIX C

Complete and return the questionnaire by May 15th and be entered in a drawing for a free luncheon ($15 value) at MCC's Class Act and a free floral arrangement.

Maui Community College
UNIVERSITY OF HAWAII

OFFICE ADMINISTRATION AND TECHNOLOGY (OAT) PROGRAM

1. How many office workers do you employ with the following job titles? *(Give number.)*

___Receptionist
___General Clerk/Clerk Typist
___Stenographer
___Office Manager
___Word Processor
___Computer Operator
___Bookkeeper/Account Clerk
___Legal/Medical Secretary
___Administrative Assistant
___Secretary to Dept Head/Mgr or Owner
___Information Systems Assistant
___Other *(Specify)* :_____

2. How many office workers do you intend to hire in the next 3 years?

___ due to expansion ___ due to replacement

3. Please check below the equipment currently in use in your office:

___ Electric Typewriter
___ Personal computers
___ Fax Machine
___ Electronic Scanner
___ Laser Printer
___ Electronic Memory Typewriter
___ 10 Key Adding Machine
___ Transcriber
___ Photo-copier
___ Other Equipment *(Specify)*:_____

4. If a prospective employee of yours had a 2-year degree or 1-year certificate from Maui Community College, would that justify a higher starting salary in your organization?

___ Yes ___ No ___ Maybe ___ Don't know

5. What type of specialized vocabulary is required in your business?

___ Legal ___ Medical ___ None ___ Other:_____

6. List the specific types of business math problems your employees need to understand and perform.

7. What typing speed do you require of secretaries? *(Circle appropriate number.)*

	None	25-40	40-50	50-60	60+
Clerk -Typist	1	2	3	4	5
Secretary	1	2	3	4	5
Administrative Assistant	1	2	3	4	5

8. What shorthand speed do you require of secretaries?

___ 100+ wpm ___ 80-100wpm ___ 60-80wpm ___ Not required

9. Check the brand of computer that is used in your office?

___ None ___ IBM or compatible ___ Macintosh ___ Other:_____

10. What word processing software is in use in your office? *(Please include version.)*

___ WordPerfect ___ Microsoft Word ___ None ___ Other:_____

11. What accounting/spreadsheet software is in use in your office? *(Please include version.)*

___ Database ___ Excel ___ Other:_____

12. What Desktop publishing software is in use in your office?

___ None ___ Pagemaker ___Other:_____

13. What type(s) of filing system do you have in your office? *(Check all that apply.)*

___ Alphabetic ___ Numeric ___ Subject ___ Geographic
___ Computerized ___ Microfilm/fiche ___ Other:_____

14. What times are best for your employees to take training classes? *(Check all that apply.)*

___ Before work (early am) ___ Morning (8am-12pm) ___ Lunch hour
___ Afternoon (12pm-4pm) ___ Late afternoon (4pm-6pm) ___ Evenings ___ Weekends

15. Do you currently have a policy to reimburse employees for the cost of job-related education?

___Yes ___No

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16. In what area(s) do your current office employees need training?

17. Please rate the following skills for each job title by circling the appropriate number:

Skill	Clerk Typist			Secretary			Admin Assistant			Bookeeper/ Account Clerk		
	LO	MED	HI	LO	MED	HI	LO	MED	HI	LO	MED	HI
VERBAL SKILLS												
Verbal Communication	1	2	3	1	2	3	1	2	3	1	2	3
Grammar, Spelling, Punctuation	1	2	3	1	2	3	1	2	3	1	2	3
Specialized Vocabulary	1	2	3	1	2	3	1	2	3	1	2	3
Telephone Etiquette	1	2	3	1	2	3	1	2	3	1	2	3
Composing Letters & Reports	1	2	3	1	2	3	1	2	3	1	2	3
CLERICAL SKILLS												
Fast Typing	1	2	3	1	2	3	1	2	3	1	2	3
Accurate Typing	1	2	3	1	2	3	1	2	3	1	2	3
Shorthand	1	2	3	1	2	3	1	2	3	1	2	3
Filing System	1	2	3	1	2	3	1	2	3	1	2	3
MATH SKILLS												
Basic Business Math	1	2	3	1	2	3	1	2	3	1	2	3
Accounting Principles & Functions	1	2	3	1	2	3	1	2	3	1	2	3
MACHINE SKILLS												
Electronic Calculator	1	2	3	1	2	3	1	2	3	1	2	3
10-key by Touch	1	2	3	1	2	3	1	2	3	1	2	3
Machine Transcription	1	2	3	1	2	3	1	2	3	1	2	3
Office Equipment Troubleshooting	1	2	3	1	2	3	1	2	3	1	2	3
INTERPERSONAL SKILLS												
Human Relations	1	2	3	1	2	3	1	2	3	1	2	3
Legal Aspects	1	2	3	1	2	3	1	2	3	1	2	3
Princ of Supervision	1	2	3	1	2	3	1	2	3	1	2	3
Princ of Management	1	2	3	1	2	3	1	2	3	1	2	3
Princ of Economics	1	2	3	1	2	3	1	2	3	1	2	3
COMPUTER SKILLS												
Computer Literacy	1	2	3	1	2	3	1	2	3	1	2	3
Computer Operation	1	2	3	1	2	3	1	2	3	1	2	3
PC DOS (Disk Operating System)	1	2	3	1	2	3	1	2	3	1	2	3
Windows 3.11	1	2	3	1	2	3	1	2	3	1	2	3
Windows 95	1	2	3	1	2	3	1	2	3	1	2	3
Word Processing software	1	2	3	1	2	3	1	2	3	1	2	3
Voice Recognition software	1	2	3	1	2	3	1	2	3	1	2	3
Database software	1	2	3	1	2	3	1	2	3	1	2	3
Desktop Publishing software	1	2	3	1	2	3	1	2	3	1	2	3
Power Point Presentation software	1	2	3	1	2	3	1	2	3	1	2	3
Internet Web Search/Page Design	1	2	3	1	2	3	1	2	3	1	2	3
Electronic Mail (E-mail)	1	2	3	1	2	3	1	2	3	1	2	3

Mahalo for taking the time to complete our survey. If you would like to receive a summary of our survey results, please give your name and address below:

Please return the completed survey to: Jean A. Pezzoli, Assistant Dean of Instruction, Maui Community College, 310 Kaahumanu Avenue, Kahului, HI 96732.

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Appendix D

Mailing List and Respondents by Sector

Sector	Survey Color	N/A**	Sample
Hotels, Condominiums	Light blue	2	20
Attorneys	Goldenrod	1 + 1	20
Investment Co., Insurance Co., Financial Advisors	Light green	5	15
Business Srvc, Emplymnt Agency, Printers, Architecture	White	1	11
Non-Profit Agencies	Orchid	2	8
Mortgage Co., Title Co., Securities	Salmon	1	5
Banks, Credit Unions	Light yellow buff	--	6
Advertising, Marketing, Communications	Canary	--	4
Graphics, Networks, Computer, I.T.	Pink	4	3
Medical Centers	Ivory	--	3
Totals: Sent = 487		17	95

*Note.– Respondent returned blank survey.
**Note.– Post Office returned survey undeliverable.